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RESET - RSR Filter Detector Assembly Replacement

I. Purpose:

This document describes the methods to replace the MFRSR filter detector assembly after internal components have failed.

II. Cautions and Hazards:

- Do not touch the white detector in the center of the detector head with your fingers. Cover white diffuser with red plastic shipping cap whenever working with detector head.
- Must have authorization to replace detector head from mentor or TWPPPO.

III. Requirements:

- Electric tool kit.
- Red protective cap.
- Bubble level.
- Screwdriver set (Phillips screwdriver).
- Detector head bubble level.
- Square.
- Marker (fine line).
- Must have authorization to replace detector head from mentor or TWPPPO.
- Remove/Replace parts form.

IV. Procedure:

A. Steps:

1. Mentor or science team notifies site when the detector head fails or needs changing.
2. Turn off main power switch located inside MFRSR datalogger box. (DC line datalogger). If you are using Battery backup, be sure to disconnect the battery. **For now, disconnect fuse in power box for RSR datalogger.**
3. Cover the white diffuser with red plastic, shipping cap.
4. Check on the MFRSR base plate that there are two marks for filter detector assembly alignment (see Figure 1, Filter Detector Assembly Removal, for

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location of marks). The marks are handy in re-aligning the new detector head without the need for special tools. If marks are not present, be sure to add them before removing the filter detector assembly.

5. Check the MFRSR bottom plate for two marks located along the sides the MFRSR baseplate (see Figure 2, Bottom Plate Alignment Marks, for locations). These marks are handy in re-aligning the base plate (if it moves during repairs or in climate weather) without the need for special tools.
6. Disconnect the signal cable to the detector assembly.
7. Remove the two screws holding the detector head to its support post. Hold on to the detector head because it will fall following the removal of the screws.
8. Store the removed detector head in its shipping container and follow procedure for shipping parts back for repairs.
9. Reconnect the signal cable to the new detector assembly.
10. Install a new head using the square and marks on the base plate for alignment guides.
11. Remove red plastic shipping cap from new detector.
12. Recheck North-South alignment of the MFRSR base plate by comparing marks on the stand. Make note to recheck entire assembly for alignment at next local area noon. At LAN, there should be no shadow located on the MFRSR assembly. Refer to Figure 3, Solar Noon Check, for reference.
13. Record old and new serial numbers using the Remove Replace Parts Form. Add Remove/Replace Parts form to the Site Data Log.
14. Turn power "ON" to the MFRSR.
15. Check that shadow is falling directly before, on, and directly after RSR detector.
16. Double check at local area noon that there is no shadow present.
17. Lock up MFRSR datalogger.
18. Record date, start-time, end-time, and comments regarding the change in the Site Data Log. Make note to check MFRSR alignment at next LAN. Record this check in Site Operations Log for following Local Area Noon.

V. References:

None.

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VI. Attachments:

1. Figure 1, Filter Detector Assembly Removal.
2. Figure 2, Bottom Plate Alignment Marks.
3. Figure 3, Solar Noon Check.

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Figure 1. Filter Detector Assembly Removal.

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Figure 2. Bottom Plate Alignment Marks.

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Figure 3. Solar Noon Check.